

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A gyro sensor comprising a primary base plate formed of a semiconductor substrate and provided with a detection mass body, a driven mass body and a detecting element, said detection mass body being displaceably supported relative to a support base plate in a plane along said support base plate through ~~[[a]]~~ at least two detection spring springs having one end fixed to said support base plate, said driven mass body being connected to said detection mass body through a drive spring and ~~adapted to be driven in such a manner as to be vibrated~~ configured to vibrate in a direction intersecting with said support base plate, said detecting element ~~being adapted~~ configured to detect a displacement amount of said detection mass body in the plane along said support base plate, wherein said detection spring extends from said detection mass body in only one direction along said support base plate so as to support said detection mass body relative to said support base plate in a cantilever manner, the at least two detection springs each extending from said detection mass body in said only one direction and having flexibility in a displacement direction of said detection mass body, wherein respective distal ends of said at least two detection springs are connected to one another continuously and integrally through a coupling segment, said coupling segment having an intermediate portion fixed to said support base plate.

2. (Canceled).

3. (Previously Presented) The gyro sensor according to claim 1, wherein said driven mass body and said detection mass body are disposed parallel to one another, and said drive spring is disposed between said driven mass body and said detection mass body and formed as a torsionally deformable torsion spring.

4. (Previously Presented) The gyro sensor according to claim 1, wherein either one of said driven mass body and said support base plate has a driven-mass-body-protecting protrusion provided in a protruding manner thereon to regulate a maximum vibrational amplitude of said driven mass body.

5. (Currently Amended) The gyro sensor according to claim 1, wherein said detecting element includes a plurality of movable comb-tooth segments each provided in a protruding manner on ~~the~~ an inner peripheral surface of a cutout hole formed in said detection mass body, and a plurality of stationary comb-tooth segments each provided in a protruding manner on ~~the~~ an outer peripheral surface of a stationary member disposed within said cutout hole and in opposed relation to a corresponding one of said plurality of movable comb-tooth segments.

6. (Currently Amended) The gyro sensor according to claim 5, wherein said detecting element is adapted to detect the displacement amount of said detection mass body in accordance with change in electrostatic capacitance between said plurality of movable comb-tooth segments and said plurality of stationary comb-tooth segments, said detecting

element including a capacitance-adjusting electrode which is disposed in opposed relation to said detection mass body in the displacement direction of said detection mass body, and adapted to adjust an electrostatic capacitance value between said plurality of movable comb-tooth segments and said plurality of stationary comb-tooth segments by means of an electrostatic force to be generated between said capacitance-adjusting electrode and said detection mass body in response to a voltage applied therebetween.

7. (Previously Presented) The gyro sensor according to claim 1, which includes a stationary driving electrode which is disposed on a surface of said support base plate opposed to said driven mass body, and adapted to vibrate said driven mass body by means of an electrostatic force to be generated between said driven mass body and said stationary driving electrode in response to a vibration voltage applied therebetween.

8. (Currently Amended) The gyro sensor according to claim 1, which includes a stationary driving electrode which is disposed on a surface of said support base plate opposed to said driven mass body in such a manner that [[it]] said stationary driving electrode is divided into two pieces at an intermediate position of said surface in the displacement direction of said detection mass body, and adapted to vibrate said driven mass body by means of electrostatic forces to be generated between said driven mass body and respective ones of said divided pieces in response to two types of vibration voltages applied, respectively, therebetween, said vibration voltages having opposite polarities and the same absolute value.

9. (Previously Presented) The gyro sensor according to claim 7, which includes a distance-adjusting electrode which is disposed on the surface of said support base plate opposed to said driven mass body and in adjacent relation to said stationary driving electrode, and adapted to adjust a distance between said driven mass body and said stationary driving electrode by means of an electrostatic force to be generated between said driven mass body and said stationary driving electrode in response to a voltage applied therebetween.

10. (Previously Presented) The gyro sensor according to claim 7, wherein said stationary driving electrode is formed on said support base plate except for a region thereof opposed to a region of said driven mass body where a vibrational amplitude is to be maximized.

11. (Currently Amended) The gyro sensor according to claim 7, wherein said stationary driving electrode is disposed on the surface of said support base plate opposed to said driven mass body, wherein said stationary driving electrode and ~~said~~ an electrode wiring are concurrently in contact with said primary base plate and electrically connected to one another through said primary base plate joined to said support base plate.

12. (Previously Presented) The gyro sensor according to claim 1, wherein said driven mass body has a thickness dimension greater than that of said detection mass body.

13. (Previously Presented) The gyro sensor according to claim 1, wherein said driven mass body has a through-hole penetrating therethrough in a vibration direction thereof.

14. (Previously Presented) The gyro sensor according to claim 1, wherein said primary base plate is provided with a frame fixed to said support base plate in such a manner as to surround around said driven mass body and said detection mass body, and either one of said detection mass body and said frame has a detection-mass-body-protecting protrusion provided in a protruding manner thereon to regulate a maximum displacement amount of said detection mass body.

15. (Previously Presented) The gyro sensor according to claim 1, wherein said primary base plate is provided with an acceleration-detecting electrode which is disposed in a plane along said support base plate and in opposed relation to said driven mass body with a given distance in a direction orthogonal to the displacement direction of said detection mass body, said acceleration-detecting electrode being operable in cooperation with said driven mass body to serve as an acceleration detector for detecting a displacement amount of said driven mass body in the direction orthogonal to the displacement direction of said detection mass body in the plane along said support base plate.

16. (Currently Amended) A sensor apparatus comprising two of the gyro ~~sensors~~ sensor as defined in claim 1, and a signal processing section adapted to drive said two gyro ~~sensors~~ sensor in such a manner that the respective driven mass bodies of said two gyro ~~sensors~~ sensor are vibrated in opposite directions, and to output ~~the~~ a difference between respective outputs of said gyro sensors.